



ATARI COMPUTER ENTHUSIASTS [N.S.W.]

A.C.E. (N.S.W.)
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N.S.W. AUSTRALIA.

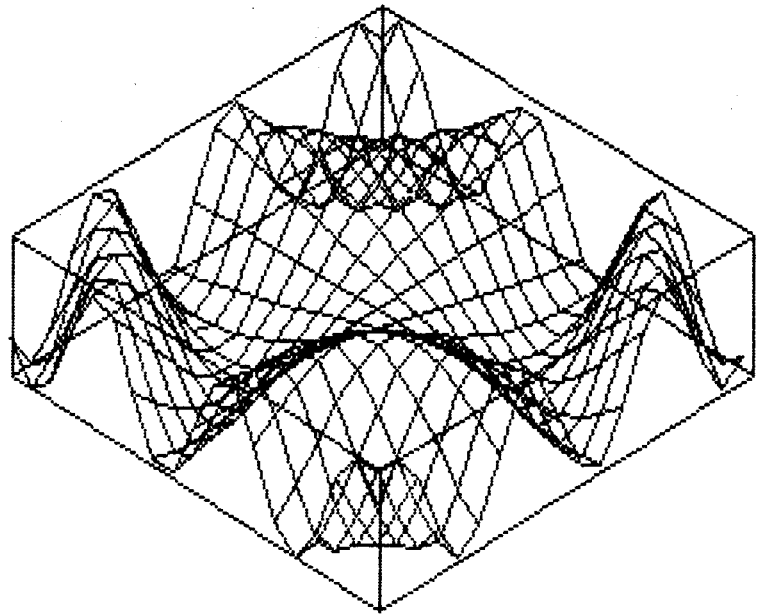
INSIDE INFO No. 24

April 1986

LOGO SCREEN SAVER



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EDITORIAL

There has been a lot happening over the past month with the club in general and with Atari.

The committee has brought a large supply of blank disks, these disks are Double-sided and Double-density and will sell for \$22.00 for a box of ten including labels. There are still some Nashua disks left and these will be sold for \$22.00 a saving of \$5.00. The disks may be ordered by post but there will be a \$3.00 postage fee.

The bulletin has gone under some changes with the implementation of the ANTIC BULLETIN CONSTRUCTION SET. From the 1st of MAY a membership fee will be required to use the board. The fee will be a \$10.00 fee for life time membership for A.C.E members or \$10.00 per year for non-members. To use the bulletin boards you will need a password. After sending the joining fee to A.C.E ring the bulletin board and leave a message to the SYSOP stating;

Name

Address

Year Joining

and Password (up to eight characters)

Don't forget the club has two boards running and this fee allows access to both boards under the same password.

Brain Elliot SIG-ED is nearly finished compiling the Educational Disks with five already completed, Early Primary 1,2 & 3 and Logical Thinking 1 & 2. These will be demonstrated at the May meeting and will be available from the software exchange then also.

At the general meetings time will be made available for a software market, where programs can be bought, swapped or sold. Programs must be original as the club cannot condone software piracy. Please contact Ian Murray giving details, so he can organise the market and slot it into the meeting.

PC86 was a great success. The club had three computers on the stand. One 520ST with colour monitor and two 130XE's. The ST was showing off its superior graphics with the AMIGA-BALL demo the POLY WANTS AN AMIGA, NO WAY JOSE! demo and a variety of colour pictures, sound demonstrations. The ST generated an enormous amount of interest and we even had people taking photographs of the colour pictures on the screen. People were impressed even by the XE's running ROBOTDEMO various sound demos and the eight-bit AMIGA-BALL demo. Questions like 'What sort of monitor is that?', reply 'Just a normal TV.', response 'OH my', so it looks like the 8-bits are here to stay. The other XE was connected up to VIATEL which was very impressive and in fact so impressive that 10 SUNSOFT B-MODEMS were sold after looking at VIATEL.

Many thanks go to all that helped on the stand at the show and special thanks to. Bordon Tkechuk from MOBEX who supplied all the computers for the show. Neil Patterson President of Adelaide ACE who helped out on the stand and who just came up especially for the show. Warren Hamilton from Queensland who sold the SUNSOFT B-MODEMS and PARIS RADIO ELECTRONICS who supplied us with ST software and information. Thanks also go to Telecom for the VIATEL link.

More information on the ST pricing. The price of the ST will come down to match the AMIGA's price. The price of the monochrome ST's will be under \$2000 and the colour system around \$2490. Mobex will be at the Melbourne PC show to demonstrate the new machines with quote 'one whole side of the floor' devoted to Atari, and also they



may have US experts helping out on the stands.

Lets hope with all this fuss about the ST's that they won't forget about the 8-bit systems, and continue to support them and hopefully bring the prices down on these machines and drives as these will be they mainstay of Atari in Australia.

One more thing before I conclude, please keep sending in the survey. Already information from the surveys have shown that members from the country that cannot attend the meetings are missing out on the information etc presented at the meetings. This has been rectified now by, starting in the May Issue a regular column discussing what happened at the meetings and any demonstrations of programs will be reviewed in the magazine.

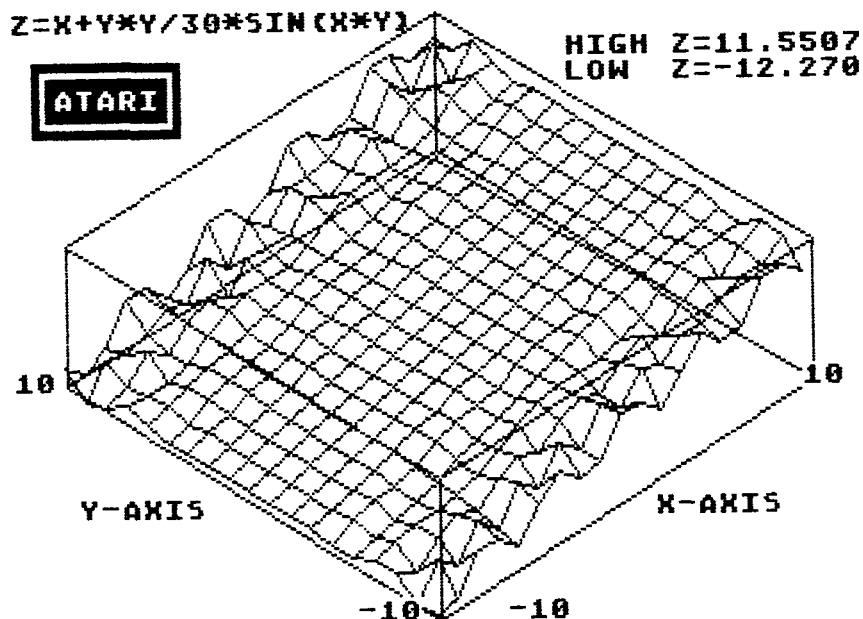
Craig Armsworth
EDITOR

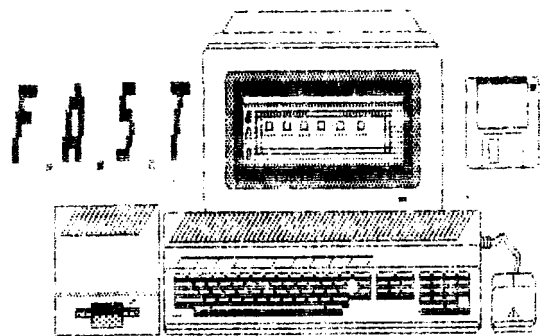


OOPS!

The line 20282 if difficult to read in FONT WIDENER in ISSUE 23 it reads,

20282 DATA 76,166,6,138,96,0





Forum of Australian ST's

Hello again fellow ST'ers, welcome to another fun packed episode of F.A.S.T.!

Firstly I wish to thank all those members that worked on the A.C.E stand at the PC86 show last month. It was a very succesfull show for the ST's because as well being bombarded by questions and enquiries, visitors also gave great praise on the ST over the AMIGA. Not bad when you consider the AMIGA was demo'ed by it's manufacturer, while many people were more impressed by a User Group display using just one machine!.

One comment was about the AMIGA-BALL demo, of course we then demo'ed the superior ST-BALL then totally converted them to ATARI by showing them the XL-BALL (yep a 8-bit Bouncing Ball) running on a 130XE (but not needing the extra ram)!.

O.K. on the software front things are progressing well with new releases all the time and boy most of them are great. Of the games my favorite at the moment is KING's QUEST II (Romancing the Throne.), this is a Graphic Adventure with a difference! Your character can move amongst the 3-D animated location. For example if there is a lake, you can jump in and swim about! The music is also superb. Each of the multitude of locations are artfully drawn in up to 16 solid colors(RGB) or patterns(MONO). The adventures story is of King Graham's quest to find a bride. But the control of your character is what is unique, to 'GO EAST' just press the right arrow and Graham move east at one of three speeds. There are more than just puzzles to solve, there is other characters to interact with, some like 'Haggtha the Witch' are out for the kill. She comes at yar so fast you have just enough time to duck behind the nearest tree and hope she doesn't see you!. But others like 'Little Red Riding Hood' are very friendly especially when you help THEM.

ANTIC Magazine are getting into the ST spirit with their Product Catalogue featuring some great programs at good prices. The most interesting is one called 'Maps & Legends', this programs draws world maps in COLOR or MONO from any viewpoint any altitude and from 6 mapping conventions! You can display a full globe or zoom in and show just one fragment of the globe. Once the map is drawn you can then color it in with a variety of colors and patterns and also add titles and labels in 12 fonts (using ANTIC's Font Loader,Desk.Acc). Truly a fascinating program .It sells locally for \$50Aust.

Here's a bit of gossip, it seems ATARI are talking to METACOMCO with ideas of porting their TRIPOS (AMIGA-DOS) over to run on the ST, while COMMODORE are talking to DIGITAL RESEARCH about porting CP/M68K (TOS-ish) to the AMIGA. Talk about ME-TOO-ism!

I recently picked up too books that I can really recommend. Firstly COMPUTE!'s ST PROGRAMMERS GUIDE, this is a 350 page book describing LOGO, BASIC, and parts of TOS & GEM. The book is divided into the 2 sections each for LOGO & BASIC, the first being a full description of the key words & commands. While the next section is a tutorial on the language, very good with good example programs and even a game of BLACKJACK on LOGO!. The TOS/GEM sections is very good showing how to interface the GEM calls from BASIC, along with a list of many of the common GEM calls info. Again with sample programs in



BASIC and 'C'. Price \$30 at Co-Op Books

The other book is one in a series of seven, it is the GEM Reference manual from ABACUS books this is a 450 page monster with almost all of the GEM calls with examples written in 'C' and 68000 machine code. The book show how to do Windows, Drop/Down Menus, ICON moving, Dialog boxes, ETC... An excellent book. Price \$37.50 at Computer-1.

Well thats it again for this month, Check yar later.....Bye...

☆☆☆

COMPUTER GAMES

by Elaine Hopper



These are treasures to behold
to attempt, love and scold
These endeavours - they can try
and we always do ask why

But again we come to face
figures dancing in that place
These that we can push and pull
shove about to suit our will

Cunning minds those things have built
in attempt to move the silt
Get us moving on again
to make us think - that's plain

First the task to move not linger
it just takes one little finger
Then as involved we do become
takes much of thought to have it won

Tracing mazes through our mind
then trying tests of every kind
Then the greatest plan of all
to make it work we've got to call

Some take affront with consternation
"What - make us use imagination?"
But intrigued by all that's there
we again attack - with care

So the games have taken toll
all the players now don't loll
Active minds and active hands
once again front life's demands

☆☆☆

LOGO SCREEN SAVER

by Arthur Banks

There are three programs included with this article. The first is a Logo program which can be used to write a turtle graphics screen to a disk file. To use it, simply draw a graphics screen, load PICSAVE.LOG and type PICSAVE. The picture will then be written out to disk. The apparent garbage which will be printed in the text window is the characters that are stored on the disk to represent your picture.

The second program is a Basic program which can be used to load a picture saved with PICSAVE back into memory. To use it, remove the Logo cartridge, boot up with Basic and type RUN "D:PICLOAD.BAS".

The third program is a Basic program to load a machine code routine to dump a Graphics 7 screen to an Epson printer (or its equivalent.) To use it, first run PICLOAD.BAS as above then run SDUMP7.BAS.

(If anyone has a better, faster, more convenient way of dumping a Logo screen I would be very happy to learn how to do it.)



```
TO REM :COMMENT  
END
```

```
TO PICSAVE  
PR [WHAT FILENAME DO YOU WANT]  
PR [THE PICTURE SAVED UNDER?]  
REM [ESTABLISH THE FILE NAME AS "D:XXX.PIC]  
MAKE "FILE FIRST RL  
MAKE "FILE WORD "D: :FILE  
MAKE "FILE WORD :FILE ".PIC  
REM [TURN OFF WRITE VERIFY]  
.DEPOSIT 1913 87  
REM [FIND THE START OF THE DISPLAY LIST]  
MAKE "DLIST ( .EXAMINE 561 ) * 256 + .EXAMINE 560  
REM [FIND THE START OF DISPLAY MEMORY]  
MAKE "DMEM ( .EXAMINE ( :DLIST + 5 ) ) * 256 + .EXAMINE ( :DLIST + 4  
)  
REM [OPEN THE DISK FILE]  
SETWRITE :FILE  
REM [READ BYTES FROM DISPLAY MEMORY AND WRITE THEM TO THE DISK FILE]  
MAKE "LOC :DMEM  
REPEAT 40 * 96 [MAKE "BYTE .EXAMINE :LOC TYPE CHAR :BYTE MAKE "LOC  
:LOC + 1]  
REM [CLOSE THE FILE]  
SETWRITE []  
CT PR [NOW REMOVE LOGO, INSERT BASIC]  
PR [AND TYPE RUN "D:PICLOAD.BAS" FOLLOWED]  
PR [BY RETURN.]  
REM [TURN ON WRITE VERIFY]  
.DEPOSIT 1913 80  
END
```



```

1 REM #####
2 REM #      LOGO PICTURE LOADER      #
3 REM #      by Arthur Banks          #
4 REM # Published by Atari Computer   #
5 REM #      Enthusiasts (N.S.W.)    #
6 REM #      April 1986               #
7 REM #####
11 DIM FILE$(12),DEVICE$(15)
12 ? "WHICH FILE DO YOU WANT TO LOAD?"
13 INPUT FILE$
14 DEVICE$="D:"
15 DEVICE$(LEN(DEVICE$)+1)=FILE$
16 FILE$=DEVICE$
20 GRAPHICS 7
30 DLIST=PEEK(561)*256+PEEK(560)
40 DMEM=PEEK(DLIST+5)*256+PEEK(DLIST+4

```

```

0 REM #####
1 REM #      GRAPHICS 7 SCREEN DUMP    #
2 REM #      SUBROUTINE                #
3 REM #      by Arthur Banks          #
4 REM # Modification of COMPUTE!'S    #
5 REM #      SECOND BOOK OF ATARI.     #
6 REM # THE 49 SECOND SCREEN DUMP     #
7 REM #      originally conceived by  #
8 REM #      DAVID NEWCORN            #
9 REM #####
500 DIM A$(192):FOR B=1 TO 61:READ N:P
OKE 1535+B,N:NEXT B:DM=PEEK(88)+PEEK(8
9)*256:DM=DM+40*95

```

```

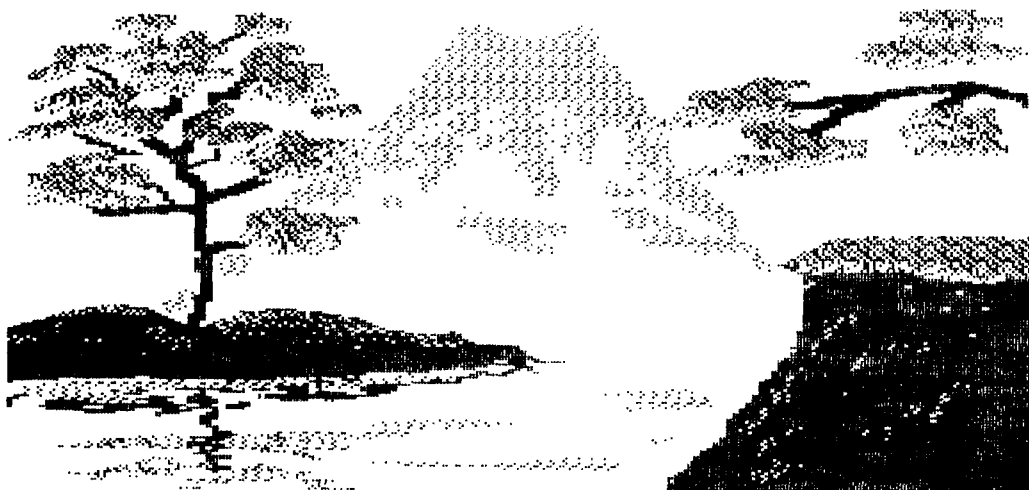
)
45 REM LINES 50 TO 70 READ A PICTURE F
ILE CREATED WITH PICSAVE.LOG
46 REM AND REPRODUCE THE PICTURE ON TH
E SCREEN
47 REM READY FOR THE MACHINE CODE DUMP
48 REM TO BE LOADED BY SDUMP7.BAS
50 OPEN #2,4,0,FILE$
60 FOR X=0 TO (40*96)-1:TRAP 120:GET #
2,A:POKE DMEM+X,A:NEXT X
70 CLOSE #2
80 ? "NOW, TO PRINT THIS PICTURE"
90 ? "PRESS [ ] AND RETURN"
100 INPUT DEVICE$:IF DEVICE$="P" THEN
RUN "D:SDUMP7.BAS"
110 END

```

```

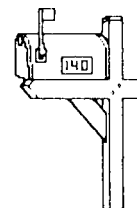
505 REM
510 LPRINT CHR$(27);"A";CHR$(8):FOR X=
DM TO DM+39
520 A$=CHR$(0):A$(96)=CHR$(0):A$(2)=A$
540 W=USR(1536,X,ADR(A$)):LPRINT CHR$(
27);"K";CHR$(96);CHR$(0);A$
550 NEXT X
560 DATA 104,104,141,21,6,104,141,20,6
,104,141,27,6,104,141,26,6,160,97,173,
255,255,136,240,35,141,255,255,238
570 DATA 26,6,240,21,173,20,6,56,233,4
0,141,20,6,144,4,24,76,19,6,206,21,6,7
6,19,6,238,27,6,76,33,6,96

```





SOFTWARE EXCHANGE



Hi, having finally surfaced after a mammoth disk making spree for the PC86 show, I am back at the keyboard to report on the new arrivals in the S.E. There are FOUR new disks this month, 2 Inside Info volumes and 2 new Games.

INSIDE INFO Volume #6 \$6.00

This disk has the following programs from issues #20 & #21.

PROGRAMS: Adding text in screen borders, Computer Assisted Designer (very good), Electrical maths calculator, A 38 column program lister, MAC/65 macro's for maths, Delux disk menu, 1020-Micropainter screen dumper in BASIC & ACTION!, Silly senteces in LOGO, Equation maker for MAC/65.

INSIDE INFO Volume #7 \$10.00

This is a DOUBLE-SIDED disk of the programs from issue #22 (you know, the one that was 'BYTE' sized!).

It contains: Bull Ants game, Deadline Dilemma game, Calender/Planner, Windows(al la GEM), Darts game, 800XL Ramdisk, Poker mach game, Biorhythm/days calc, Typing tutor (dats wot I need), Gangsters game, 'SIMON'(tm) game, S.A.M. Speech editor, Home inventory, Player/Missile examples.

O.K on too the -GAMES!-,::

AMERICA's CUP. \$6.00 (+\$2.00)

This is a superb simulations of the America's Cup contest between Australia II & Liberty. It has all the rules and tactics, craft parameters, wind/weather changes, different sea depths, and six of the NEWPORT courses. And best of all it was written by one of our own members, Ken Hall. Good-One Ken!.

As would be expected a game of this type need a lot of DOCO, a 10 page rule book is sold as extra for \$2.00, but a condensed set of rules is printed in this issue (#24). It is up to you to decide which one to use.

COSMIC CRUSADERS. \$8.00 (includes DOCO)

Your chance to be a STAR-LORD and take the cosmos by (cosmic) storm!. This is a multi-player game of conquest cruise the galaxy with your Battle-Fleet fighting for the right to plant your flag in the planets soil. There are a multitude of options including Peace treaties (It is Internation Year of Peace, you know). A very absorbing game and well written in Machine Language. Price includes Rule book.

Well that's it for this month, I'll just add my usual request for Public Domain proggies, when (notice I say WHEN not IF) you send in a disk of programs ples include a list saying where they come from, much appreciated. BYE.

Stop Press: Re ANTIC P/D collection (look in ANTIC catalog), well 10 of the disks have been ordered (yay team) more info when they arrive.





VBI'S



and

by Glynn Gough
Bundaberg, Qld.

DLI'S

A ROTATING RAINBOW

Due to a Drive failure, all that I have been able to do on the Atari for the last month is program. And here are the results. Not one, not two, but three programs!

In my first program, a pattern is drawn in Colour 1 in Graphics 7, and a rainbow of 128 colours is rotated through it. The program uses both the VBI and the DLI - the Display List Interrupt.

The VBI has been mentioned several times in the past, but for new readers, I will just touch on it again. First, load Y with the LSB of the start of your routine, load X with the MSB of your routine, load the Accumulator with 7 to indicate deferred VBI and JSR through SETVBV (58460 - \$E45C). You must leave the VBI with a JMP through XITVBV (58466 - \$E462).

The Display List Interrupt is used for anything you want done part way down the screen. It is mainly used for changing colours. Note that you must use the hardware address, not the shadow register. So to change Colour 2, you must change 53272 (\$D018), not 710 (\$2c6). Try this:

```
10 FOR I=1536 TO 1546:READ N:POKE I,N:NEXT I
20 DATA 72,169,0,141,10,212,141,24,208,104,64
30 DL=PEEK(560)+256*PEEK(561):POKE DL+15,130:POKE 512,0:POKE
513,6:POKE 54286,192
```

This will make your screen half blue, half black. When using a DLI, you must:

In Machine Language

- Push all the registers you are using onto the stack.
- Precede any colour changes with a STA WSYNC (54282 - D40A). Storing a value into this location halts the CPU until the end of the scan line is reached. This eliminates flicker.
- Pull all your registers before leaving.
- Leave with an RTI (Return from Interrupt.)

In BASIC

- Alter the display list. Set bit 7 (Add 128) of the line before where you want your DLI to occur. It will be executed after the mode line with the bit 7 set.
- Store the LSB of the start of the Routine into 512 (\$200)
- Store the MSB into 513 (\$201)
- Set bits 6&7 in NMIEB (54286 - D40E). Bit 7 is for the DLI, but bit 6 must be set for the machine's VBI.

NOTE: SAVE THIS PROGRAM BEFORE RUNNING IT!!

Listing One

```
1 REM #####
2 REM #      ROTATING RAINBOW      #
3 REM #      by Glynn Gough        #
4 REM # Published by Atari Computer #
5 REM #      Enthusiasts (N.S.W.)  #
6 REM #      April 1986            #
7 REM #####
10 GRAPHICS 7:POKE 559,0:POKE 708,0:F
OR I=1536 TO 1577:READ N:POKE I,N:NEXT
I
20 DATA 104,162,6,160,11,169,7,32,92,2
28,96
30 DATA 238,196,2,173,196,2,141,41,6,7
6,98,228
40 DATA 72,173,41,6,141,10,212,141,22,
208,238,41,6,238,41,6,104,64,0
50 DL=PEEK(560)+256*PEEK(561):POKE 512
,23:POKE 513,6:COLOR 1
60 FOR X=0 TO 159 STEP 3:PLOT X,0:DRAM
TO 159-X,95:NEXT X:FOR Y=20 TO 75 STEP
3:PLOT 0,Y:DRAMTO 159,95-Y:NEXT Y
70 POKE DL+3,PEEK(DL+3)+128:FOR A=DL+6
TO DL+100:POKE A,141:NEXT A
80 X=USR(1536):POKE 54286,192:POKE 559
,34
90 GOTO 90
```



A PLAYER/MISSILE VBI ROUTINE



My second program sets up a three-colour Player and a Joystick VBI routine to move it. The first part draws the robot. The player is a combination of Player 0, which is white, and Player 1, which is deep purple. Because bit 5 of GPRIOR (623 - \$26F) is set, where these two players overlap, the colour is a light purple.

This Machine Language subroutine was originally planned to fit into Page 6, but because the subroutine was longer than a Page, the second part (The Joystick routine) had to be put somewhere else. So I put it in the unused area in the Player/Missile block. The only unfortunate thing about this is that the first part tells the CPU that the VBI resides in memory found by PEEK(106)-16. So, if you type in GRAPHICS 8, BANG! your machine locks up. To get around this, three bytes must be altered. They are byte #23, byte #51 and byte #149. The memory locations for these are 1558, 1586 and 1684 respectively. All of these must be decreased by the number of pages you want reserved.

Anyway, the second part of the subroutine is the Joystick routine, which reads Joystick Port #1 and acts accordingly.

Once you have accessed the routine once, that is all you need do. You can now wipe your BASIC program. The VBI keeps going. If you use a GRAPHICS command, you must follow it with X=USR(1536) to reset the PM.

On pushing reset, you will notice the Player reappears. This is done by a RESET Key Interrupt. Try this:

```
10 FOR I=1536 TO 1541:READ N:POKE I,N:NEXT I
20 DATA 169,0,141,198,2,96
30 POKE 2,0:POKE 3,6:POKE 9,3:POKE 54286,224
RUN it and hit RESET.
```

This makes your screen black on RESET! (NOTE: CASSETTE USERS MUST POKE 9 WITH A 2. Poking with a 3 causes your machine to jump to the location pointed to by DOSINI. If no disk has been booted, this will point to 0000, causing the Atari to take a nap. Likewise, change byte #11 (1546) in the program to 2 and also the POKE 9,3 in line 30 of the above program.)

To use a RESET Key Interrupt, you must poke CASINI (2,3) with the LSB and MSB of the start of your routine. Poke BOOT (9) with 3 (2 for Cassette users). Set bit 5 (Add 32) of NMIIEN (54286 - D40E) for the RESET Key Interrupt.

To get rid of the Player, Poke 9 with a 1 (0 for Cassette users) and push RESET. Hope you understood this... Stay tuned for Program 3.

NOTE: SAVE THIS PROGRAM BEFORE RUNNING IT!!

Listing Two

```
1 REM #####
2 REM #   PLAYER/MISSILE VBI   #
3 REM #   ROUTINE             #
4 REM #   by Glynn Gough      #
5 REM # Published by Atari Computer #
6 REM #   Enthusiasts (N.S.W.) #
7 REM #   April 1986          #
8 REM #####
9 FOR I=1536 TO 1744:READ N:POKE I,N:
NEXT I
20 DATA 104,169,6,133,3,169,18,133,2,1
69,3,133,9,169,224,141,14,212,56
30 DATA 165,106,233,16,141,7,212,105,2
,133,204,162,6,160,0,169,0,145,203,200
,208,251,230,204,202
40 DATA 208,246,56,165,106,233,12,133,
204,169,62,141,47,2,169,3,141,29,208,1
69,33,141,111,2,160
50 DATA 111,162,0,189,158,6,145,203,23
2,200,224,19,208,245,230,204,160,110,1
89,158,6,145,203,232,200
60 DATA 224,51,208,245,169,14,141,192,
2,169,80,141,193,2,169,0,141,8,208,169
,1,141,9,208,162
70 DATA 128,142,0,208,162,124,142,253,
6,142,1,208,160,110,140,254,6,173,254,
```

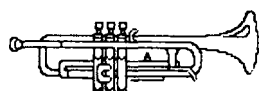



```
,238,124,239,127,253,127,219
70 DATA 34,97,225,62,254,34,34,102,84,
170,16,36,60,24,24,60
75 DATA 255,255,98,127,98,127,127,96,2
55,255,70,254,70,254,254,6
80 POKE 712,14:POKE 708,238:POKE 709,2
02:POKE 710,164:POKE 711,0:P=P*256
85 POKE 1605,0:POKE 1606,0:POKE 1607,0
:POKE 1608,0
90 FOR I=1 TO 500:X=INT(5*RND(0))+1:X2
=INT(3*RND(0)):X3=INT(3840*RND(0))+P:P
OKE X3,X+64*X2:NEXT I
100 FOR I=1 TO 7:X=INT(3840*RND(0))+P:
POKE X,I+192:NEXT I
110 FOR I=1 TO 5:X=INT(3840*RND(0))+P:
POKE X,200:POKE X+1,201:NEXT I
120 FOR I=1578 TO 1588:READ N:POKE I,N
:NEXT I
130 DATA 104,104,170,104,160,169,7,32,
92,228,96
140 DIM M$(287):FOR I=1 TO 287:READ N
:M$(I,I)=CHR$(N):NEXT I:X=USR(1578,AD
R(M$)):POKE 559,34
150 GOTO 150
160 DATA 173,120,2,9,7,201,7,208,62,17
3,69,6,201,0,240,13,206,69,6,173,69,6,
141,4,212
170 DATA 169,1,208,113,173,71,6,201,60
,240,106,162,4,160,12,109,0,6,24,105,1
,157,0,6,144
```

```
180 DATA 3,254,1,6,232,232,232,136,208
,236,169,7,141,69,6,141,4,212,238,71,6
,173,120,2,9
190 DATA 11,201,11,208,62,173,69,6,201
,7,240,13,238,69,6,173,69,6,141,4,212,
169,1,208,42
200 DATA 173,71,6,201,0,240,35,162,4,1
60,12,109,0,6,56,233,1,157,0,6,176,3,2
22,1,6
210 DATA 232,232,232,136,208,236,169,0
,141,69,6,141,4,212,206,71,6,173,120,2
,9,13,201,13,208
220 DATA 62,173,70,6,201,15,240,13,238
,70,6,173,70,6,141,5,212,169,1,208,42,
173,72,6,201
230 DATA 36,240,35,162,4,160,12,109,0,
6,24,105,0,157,0,6,144,3,254,1,6,232,
232,232,136
240 DATA 208,236,169,0,141,70,6,141,5,
212,238,72,6,173,120,2,9,14,201,14,208
,62,173,70,6
250 DATA 201,0,240,13,206,70,6,173,70,
6,141,5,212,169,1,208,42,173,72,6,201,
0,240,35,162
260 DATA 4,160,12,109,0,6,56,233,0,15
7,0,6,176,3,222,1,6,232,232,232,136,20
8,236,169,15
270 DATA 141,70,6,141,5,212,206,72,6,7
6,98,228
```



SONGMASTER



by Andrew Hobson

SONGMASTER is a quiz game for up to 4 players. The object of the game is to gain 50 points, by guessing the name of the song played. The computer will play the first note of the song, then the second etc. up to the tenth note in the song. If no-one can guess the song, another song is played.

The fewer notes that you guess the song in, the more points you receive (from 14 to 5 points) and vice versa, the more notes you get the song's title wrong in, the more points you lose.

PLAYERS 1 & 2 use joysticks 1 & 2 respectively, while players 3 & 4 use the keyboard. The song will be played starting with 1 note etc. and the first person to press the joystick trigger or their designated key will be given the chance to name the song. Once they have done this, the song will be played once more, and then you will have to indicate whether you got it right or not (using the joysticks or keyboard).

The songs are taken from 'GUESS THAT SONG', ANTIC JULY 1985. I decided to slightly change it, but ended up rewriting the whole game, except for the song data lines.

The game is great fun to play when the whole family is involved and it combines speed (in pressing the button/key first) and knowledge of the songs. I hope everyone will enjoy it greatly.



```

1 REM ##### 09,0:POKE 710,236:POKE 559,34 OKE 764,255:GOTO 600
2 REM # SONGMASTER # 200 POKE 82,0:POSITION 0,3:? " ":GOSUB 560 IF STRIG(0)=0 THEN PL=1:GOTO 4000
3 REM # by Andrew Hobson # 6000 570 IF STRIG(1)=0 AND NUM>1 THEN PL=2:
4 REM # Published by Atari Computer # 210 REM *** PLAYERS NAMES *** GOTO 4000
5 REM # Enthusiasts (N.S.W.) # 220 ? :? " NUMBER OF PLAYERS (1-4)"; 580 IF PEEK(764)=23 AND NUM>2 THEN PL=
6 REM # April 1986 # :INPUT NUM:IF NUM<1 OR NUM>4 THEN GOSU 3:GOTO 4000
7 REM ##### 6 2000:POSITION 27,3:? " ":GOTO 210 585 IF PEEK(764)=38 AND NUM>3 THEN PL=
10 GOTO 100 230 POSITION 3,3:? "ENTER NAMES (7 LET 4:GOTO 4000
19 REM *** PLAY SONG *** TERS OR LESS)";FOR J=1 TO NUM 590 NEXT TIME:IF PLAY<10 THEN PLAY=PLA
20 FOR I=1 TO PLAY:FOR J=1 TO (TEMPO)* 240 POSITION 0,5:? "ENTER NAME OF PLAY Y+1:GOTO 510
(ASC(D$(I,I))-64):SOUND 0,ASC(P$(I,I)) ER ";J;" ":POSITION 23,5:I 595 GOTO 510
,10,8:NEXT J NPUT N1$ 599 REM *** NO ANSWER ***
30 FOR J=1 TO PAUSE:SOUND 0,0,0,0:NEXT 250 IF LEN(N1$)<1 OR LEN(N1$)>7 THEN G 600 GOSUB 6000:POSITION 3,5:? "NO-ONE
J 0SUB 2000:GOTO 240 6000 COULD GUESS THAT SONG!!":POSITION 15,7
40 IF STRIG(0)=0 THEN PL=1:GOTO 4000 260 ST=(J-1)*9:ST=ST+(8-LEN(N1$))/2:PL 1? "THE SONG WAS : "
50 IF STRIG(1)=0 AND NUM>1 THEN PL=2:G 280 PLAYERS(LEN(PLAYERS)+1,LEN(PLAYERS 610 POSITION 2+(36-LEN(NAME$))/2,9:FOR
OTO 4000 )+8)=" ":FIRST=1:GOSUB 6000 J=1 TO LEN(NAME$):? NAME$(J,J);:FOR T
60 IF PEEK(764)=23 AND NUM>2 THEN PL=3 :GOTO 4000 =0 TO 3:SOUND 0,200,10,8:NEXT T
:GOTO 4000 290 REM *** POINTS TABLE *** 620 FOR T=0 TO 5:SOUND 0,0,0,0:NEXT T:
70 IF PEEK(764)=38 AND NUM>3 THEN PL=4 300 POSITION 13,3:? "POINTS TABLE" NEXT J:FOR T=0 TO 100:NEXT T
:GOTO 4000 310 ? :? "NO. OF NOTES CORRECT 630 FOR J=1 TO NUM:PTS(J,SONG)=0:NE
75 IF PEEK(764)=33 AND PLAY=10 THEN PO 320 POSITION 13,3:? "POINTS TABLE" J:GOSUB 2500:GOSUB 5000:GOSUB 3000
KE 764,255:GOTO 600 330 FOR J=1 TO 10:POSITION 4,7+J:? J:P 640 GOSUB 6000:GOTO 450
80 NEXT I:SOUND 0,0,0,0:POKE 19,0:RETI 340 GOSUB 5000:GOSUB 6000 1999 REM *** 'BEEP' SOUND ***
RN 350 REM *** CONTROLS USED *** 2000 FOR T=1 TO 20:SOUND 0,255,10,10:M
99 REM *** TITLE *** 370 GOSUB 6000 EXT T:SOUND 0,0,0,0:RETURN
100 POKE 106,PEEK(106)-5:GRAPHICS 0:PO 380 POSITION 10,3:? "CONTROLS USED" 2499 REM *** PLAY SONG ***
KE 752,1:START=(PEEK(106)+1)*256:Z1=10 400 FOR J=1 TO NUM:PL$=PLAYERS$(J*9-8,J 2500 FOR I=1 TO TU:FOR J=1 TO (TEMPO)*
24 *9) 4000 FOR T=0 TO 39:POSITION T,J+5-FIRST:? "SONG ";J:FOR T=1 TO NUM 2500 (ASC(D$(I,I))-64):SOUND 0,ASC(P$(I,I))
110 GRAPHICS 0:DL=PEEK(560)+PEEK(561)* 410 IF J<3 THEN POSITION 4,5+J:? PL$;" 3030 IF PTS(T,J)<1 THEN POSITION (T
256:POKE DL+10,7:POKE DL+11,7:POKE DL+ 420 IF J>2 THEN POSITION 4,5+J:? PL$;" ,J+5-FIRST:? PTS(T,J)
27,65 430 NEXT J:GOSUB 5000:GOSUB 6000 3040 IF PTS(T,J)>0 THEN POSITION (T*9)
120 POKE DL+28,PEEK(560):POKE DL+29,PE 439 REM *** MAIN GAME *** 3050 NEXT T:IF J/11=INT(J/11) THEN NXT
EK(561):SETCOLOR 2,0,0:POKE 752,1:SETC 440 GOSUB 6000 =1 3060 NEXT J
OLOR 1,0,15:SETCOLOR 0,12,8 450 SONG=SONG+1:PLAY=0:POKE 764,255 3070 FOR T=0 TO 39:POSITION T,J+5-FIRS
130 POSITION 5,5:? "SONGMASTER":POSITI 460 POSITION 15,2:? "SONG ";SONG 3080 POSITION 0,J+6-FIRST:? "TOTAL":FO
ON 19,6:? "by":POSITION 13,7:? "Andrew 470 POSITION 8,6:? "PRESS TRIGGER TO H 3090 FOR T=1 TO NUM:POSITION (T*9),J+6-FIRST:
Hobson" 475 GOSUB 2000:FOR T=1 TO 400:NEXT T:P 3100 NEXT T:IF NXT=1 THEN NXT=0:FIRST=
135 POSITION 7,10:? "Initializing,Pllea 480 TUNE=TUNE+1:IF TUNE=42 THEN TUNE=1 J
se wait" 490 POSITION 8,6:? "CAN YOU NAME THIS 3110 GOSUB 5000:RETURN
140 DIM NAME$(40),P$(11),D$(11),PLAYER 500 RESTORE 7000+56(TUNE):READ TEMPO,P 3999 REM *** ANSWER + SCORES ***
$(60),N1$(8),5C(5),PL$(50),PTS(4,30),T 490 POSITION 8,6:? "CAN YOU NAME THIS 4000 GOSUB 6000
L(4),5G(42):TU=10 5000 SONG?":PLAY=1 4010 PL$=PLAYERS$(PL*9-8,PL*9):POSITION
145 FOR J=1 TO 41:5G(J)=J:NEXT J:FOR I 510 POSITION 13,4:? "NOTES PLAYED:";PL 5,1:? #6;" ";PL$
=1 TO 41:J=INT(RND(I)*(41+1-I))+I:TEMP 520 IF PLAY=10 THEN POSITION 5,10:? "T HAT IS ALL THE NOTES THAT CAN BE
=5G(I):5G(I)=5G(J):5G(J)=TEMP:NEXT I 530 IF PLAY=10 THEN POSITION 7,15:? "P PLAYED"
150 PLAYERS(1)=" ":PLAYERS(59)=" ":PLA 540 FOR TIME=1 TO 35 3999 REM *** ANSWER + SCORES ***
AYER$(2)=PLAYERS:FOR J=1 TO 4:TL(J)=0:N 550 IF PEEK(764)=33 AND PLAY=10 THEN P 4000 GOSUB 6000
EXT J 5500 IF PEEK(764)=33 AND PLAY=10 THEN P 4010 PL$=PLAYERS$(PL*9-8,PL*9):POSITION
160 FOR J=100 TO 40 STEP -1:SOUND 0,J+ 5500 IF PEEK(764)=33 AND PLAY=10 THEN P 5,1:? #6;" ";PL$
60,10,25-J/4:POKE 53760,J:NEXT J:SOUND 5500 IF PEEK(764)=33 AND PLAY=10 THEN P 5,1:? #6;" ";PL$
0,0,0,0
169 REM *** SET-UP SCREEN ***
170 POKE 106,PEEK(106)-5:GRAPHICS 0:PO
KE 752,1:START=(PEEK(106)+1)*256
180 GRAPHICS 0:POKE 559,0:POKE 752,1:D
L=PEEK(560)+PEEK(561)*256:POKE DL+6,6:
POKE DL+7,6:POKE DL+27,65
190 POKE DL+28,PEEK(560):POKE DL+29,PE
EK(561):POKE 708,200:POKE 752,1:POKE 7

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4020 FOR I=1 TO PL*2:FOR J=PL*50 TO PL 7000 REM SONG DATA TAKEN FROM
*50+(12-PL*2):SOUND 0,J,10,8:NEXT J:NE 'GUESS THAT SONG' ANTIC JULY 1985
XT I:SOUND 0,0,0,0 7001 DATA 15,8,11y1G MY6Y,AAABBBBABA,"
4030 POSITION 4,3:? PL$;" ,NAME THAT S Sunshine of Your Love"
ONG !!" 7002 DATA 10,4,0Yy00000,BAHABAIBAB,"
4040 POSITION 3,7:? "WHEN YOU HAVED NA Yellow Submarine"
MED THAT SONG PRESS TRIG 7003 DATA 16,4,0660r1010,AAHAAAAAAB,"
GER":FOR T=1 TO 100:NEXT T Yesterday"
4050 IF STRIG(PL-1)<>0 THEN 4050 7004 DATA 6,5,y1f1fly/y/,CCOCCCBBC,"T
4060 GOSUB 2000:FOR T=1 TO 100:NEXT T he Age of Aquarius"
4070 GOSUB 6000:POSITION 15,3:? "THE S 7005 DATA 16,3,000000000,0BACBCABHB,"
ONG WAS ":POSITION 2+(36-LEN(NAME$))/ Scarborough Fair"
2,5:FOR J=1 TO LEN(NAME$) 7006 DATA 13,4,0U100U10,AAAALAAACL,"
4080 ? NAME$(J,J):FOR T=0 TO 3:SOUND California Dreaming"
0,200,10,8:NEXT T:FOR T=0 TO 5:SOUND 0 7007 DATA 4,6,00<0H0H,0FFCH0FFCH,"H
,0,0,0:NEXT T:NEXT J:FOR T=0 TO 100 appy Together"
4090 NEXT T 7008 DATA 25,4,0y0He0ye<0,AAAAAABAAA,"
4095 GOSUB 2500 Stairway to Heaven"
4100 ? :? :? " DID YOU GET IT RIGHT 7009 DATA 12,6,0f1f1f1y1f,CCFBABABAB,"
,":PL$;""":POSITION 17,11:? "YES":POSI Close to You"
17,13:? "NO":NXT=1 7010 DATA 20,5,000Yy1QHN,AA00BACAAA,"
4110 POSITION 2,17:? "USE JOYSTICK/TR Ebony and Ivory"
IGGER OR KEYBOARD)" 7011 DATA 28,3,0y1f1f1y1f,AAAAAABAAA,"
4120 POKE 764,255:FOR J=1 TO NUM:PT5(J Moonlight Sonata"
,SONG)=0:NEXT J 7012 DATA 21,4,00Yy11y11f,BBBAABABAB,"
4130 IF PEEK(764)=43 THEN NXT=1:GOTO 4 Pictures at an Exhibition"
190 7013 DATA 12,4,0e<5<0H<H,AAAAAABAAA,"
4140 IF PEEK(764)=35 THEN NXT=2:GOTO 4 Ravel's Bolero"
190 7014 DATA 20,7,0Yy000H00,AAAAABABABA,"
4150 IF STICK(PL-1)=14 THEN POSITION 1 The Blue Danube"
7,11:? "YES":POSITION 17,13:? "NO":NXT 7015 DATA 6,5,0000L666Y000,CCCNCCCLBB,"B
=1:GOSUB 2000 eethoven's Fifth Symphony"
4160 IF STICK(PL-1)=13 THEN POSITION 1 7016 DATA 20,3,0Yy000Yy10,ADAADAABCB,"
7,13:? "NO":POSITION 17,11:? "YES":NXT Brahms' Lullaby"
=2:GOSUB 2000 7017 DATA 23,4,0y10Q11HQ,AAAAAABAAA,"
4170 IF STRIG(PL-1)=0 THEN GOTO 4190 Jesu Joy of Man's Desiring"(Bach)
4180 GOTO 4130 7018 DATA 20,3,0U10r10r1,ABABACACAB,"
4190 IF NXT=1 THEN SC(PL)=15-PLAY Carnival of Venice"
4200 IF NXT=2 THEN SC(PL)=INT(-0.5*PLA 7019 DATA 4,8,11110U101,FAAAFFFFME,Ma
1 rche Miniature from "The Nutcracker"
4210 NXT=0:TL(PL)=TL(PL)+SC(PL):PT5(PL 7020 DATA 20,3,0y1f1f1y1f,AAAAAABAAA,"
,SONG)=SC(PL):GOSUB 3000:GOSUB 6000:GO The Godfather"
TO 450 7021 DATA 5,4,0Yy10y1y10,000B00Z000,"A
5000 POSITION 1,19:? "PRESS SPACEBAR 0 11 in the Family"
R TRIGGER TO CONTINUE":POKE 764,255 7022 DATA 15,4,0r100000H,BCAJBCAJBC,"
5010 IF STRIG(0)<>0 AND PEEK(764)<>33 Tara's Theme" (Gone With The Mind)
THEN 5010 7023 DATA 15,5,1f1f1f1y1y,0BACBBAGAA,"
5020 GOSUB 2000:RETURN MASH" ("Suicide is Painless")
6000 ? "K":POSITION 5,1:? 06;"SONGMAS tar Wars"
ER":RETURN

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FXS



AMERICAS CUP

This is a abridged version of the rules booklet for the software exchange disk AMERICAS CUP by Ken Hall. The full documentation, complete with sailing tactics and pictures of the various courses are available from the software exchange for \$2.00.

AMERICAS CUP

The object of Americas Cup is to...

- A) Design the quickest boat.
- B) Select optimum sails to suit the forecasted weather conditions.
- C) To sail the quickest course and cross the finish line ahead of the other boat.
- D) To be the first to win four races and take the cup.

DESIGNING YOUR BOAT

Yachts have to sail in three main directions, with respect to wind direction.

- 1) TACKING...into the wind.
- 2) REACHING...any direction which is not into the wind or down wind.
- 3) DOWN WIND...with the wind.

In order to design your boat you must select a value for each of these three directions. The total of these three numbers may not exceed a value of five. eg.

Boat 1..Into Wind...3.0
Reaching....1.3
Down Wind...0.7
Total.....5.0

Boat 2..Into Wind...2.5
Reaching....1.8
Down Wind...0.7
Total.....5.0

Boat 3..Into Wind...2.7
Reaching....1.5
Down Wind...1.5
Total.....5.7

From the above examples, it can be seen that boat 1 is faster into the wind but slower on the reaching legs. Boat 3 is an invalid entry and would have to

be designed again.



SELECTING YOUR SAILS

Before each race, a weather forecast will be given consisting of two parts.

- 1) Wind Strenght ranging from 5 to 25 knots.
- 2) Wind Strenght Variation. The ammount that the winds are likely of changing.

The value you choose for your sails will range from 0.7 for heavier winds to 1.4 for lighter winds. Selecting bigger sails will give you the edge in light conditions but will be a hinderance in heavy weather.

SAILING THE RACE

- 1.Changing Directions.

The boats can sail in seven directions, corresponding to seven of the joystick positions. The direction that will not respond to the joystick is forward, this is for obvious reasons. i.e. yachts cannot sail directly into the wind. JOYSTICK PORT 1 is Liberty and JOYSTICK PORT 2 is Australia II.

- 2.Starting Manouvers.

At the start both Liberty and Australia II are positioned to the left and upwind of the staring line. You have just two minutes to sail into a position which will give you the advantage. A warning bell will sound at...

- 1 MINUTE TO GO
- 30 SECONDS TO GO
- 5 SECONDS TO GO

THE GUN WILL FIRE AT THE START.

- 3.Sailing The Course.

1ST LEG....Into the wind. Sail this leg in tacks from left to right, up to the top mark.

2ND LEG....Reaching out to the

wing mark.
 3RD LEG....Reaching back to the bottom mark.
 4TH LEG....Same as 1ST LEG.
 5TH LEG....Directly down wind.
 6TH LEG....This is the final beat to windward and instead of rounding the top mark, you continue on past the finish line until the computer displays who one.

4.Rounding The Mark

When rounding the mark you are not allowed to touch the bouy. If you touch the bouy you will be required to round the mark again.

5.Recording Your Time

As you round each bouy or mark, press your joystick button

till you hear a tone, then release it. This will record your time so that it can be displayed at the end of the race.

6.At The End Of Each Race.

After each race a timekeeping chart will be displayed containing the following information.

A....The Winner.

B....Time of the Winner.

C....Times of both boats as they rounded the marks.

D....Margins in seconds between boats at marks.

After viewing the chart just press start for the next race.



WAXHEAD

By Richard Michell

Now you can go surfing all through winter without the need to buy a wetsuit. All you need is a joystick in Port 1.

Type in Waxhead and RUN it. A title screen will appear. Press the joystick firebutton to initialise the game. This takes quite a while.

Once the beach scene appears you are ready to go surfing. Press the firebutton for a wave and you're off. Control Waxhead by moving the joystick up, left or down.

The object is to score as many points as possible in riding the wave. You get points for manoeuvres. The closer the manoeuvre is made to the white water of the wave the higher the points scored.

The length of the ride is controlled by the countdown timer displayed at the bottom righthand corner of the screen. The ride also ends (obviously) if you wipeout.

To call up another wave, press the firebutton. Goodluck, but watch out for other ocean dwellers.

```

1 REM ##### 21 DIM SCR$(10),TXT$(40),TXTH$(40),TMS 09,ADPLH:POKE 218,0:POKE 219,13:POKE 2
2 REM #      WAXHEAD      # (3),HEAD$(20),MLDRAW$(130) 20,130:POKE 207,PM:POKE FLAG,0
3 REM #      by Richard Michell      # 30 SCROL5=1788:DEL=9000 2040 POKE 53278,1:POKE 20,0:POKE 19,0
4 REM # Published by Atari Computer # 50 GOSUB 8600:GOSUB 9100:GOSUB 8000:GO 2050 D=USR(ADMOV)
5 REM #      Enthusiasts (N.S.W.)      # SUB 3000:GOSUB 4055 2060 D=USR(ADR(MLWOUT$))
6 REM #      April 1986      # 2000 REM MOVE ROUTINE----- 2070 GOSUB DEL
7 REM ##### 2010 DELAY=40:HOCT=1786:FLAG=1787:FINI 2080 IF DELAY>10 THEN DELAY=DELAY-2
20 DIM MLWV$(50),MLVB$(30),MLVBIE$(30) 5H=6200:WIPOUT=6000 2090 IF SCORE>50 THEN DELAY=2
,MLMOV$(200),MLPOKE$(50),MLOCMV$(40),M 2020 PST=14:SCORE=0 2100 V=PEEK(200):IM=PEEK(218):P=PEEK(2
LFIMV$(40),MLCHMV$(35),MLWOUT$(50) 2030 POKE 204,65:POKE 200,ADPLL:POKE 2 19):H=PEEK(220)

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2110 FLG=PEEK(FLAG)
2120 IF FLG=1 THEN D=USR(ADOCMV):GOTO
2170
2130 IF FLG=2 THEN GOTO WIPOUT
2140 IF FLG=3 THEN D=USR(ADFIMV):GOTO
2170
2150 IF RND(0)>0.9 AND V<50 THEN POKE
FLAG,1:POKE HOCT,90*RND(0)+20
2160 IF RND(0)>0.9 AND V>70 THEN POKE
FLAG,3:POKE HOCT,90*RND(0)+20
2170 SCORE=SCORE+(P<>PST)*(1+10*(V>75)
*(H>133)+15*(V<40)*(H>120)+5*(V<50)*(H
>127))
2180 PST=P:POKE 218,IM:POKE 219,P:POKE
220,H
2200 SCR$=STR$(SCORE)
2220 FOR I=1 TO LEN(SCR$)
2240 INTCHR=ASC(SCR$(I,I))-32
2260 POKE TXTAD+I+8,INTCHR:NEXT I
2300 TIME=PEEK(19):TMS=STR$(10-TIME):T
MS(LEN(TMS)+1)=" "
2320 FOR I=1 TO LEN(TMS)
2340 INTCHR=ASC(TMS(I,I))-32
2360 POKE TXTAD+I+17,INTCHR:NEXT I
2380 IF TIME=10 THEN GOTO FINISH
2399 GOTO 2050
3000 REM DLI MOVE ROUTINE-----
3040 ADMV=ADR(MLMV$):HADMV=IKT(ADMV/25
6):LADMV=ADMV-256*HADMV
3050 ADVB=ADR(MLVB$)
3060 RESTORE 3150:FOR I=0 TO 43:READ B
YTE
3100 POKE ADMV+I,BYTE:NEXT I
3150 DATA 104,169,1,133,203,165,20,197
,20,240,252,169,192,141,14,212,96
3155 DATA 72,130,72,166,203,232,224,2,
208,2,162,0,189,254,6,141,10,212,141,2
3,208,134,203,104,170,104,64
3159 REM DLI INITIATION-----
3160 RESTORE 3210:FOR I=0 TO 11:READ B
YTE
3200 POKE ADMV+I,BYTE:NEXT I
3210 DATA 104,162,1,165,20,197,20,240,
252,134,203,96
3300 REM VBI HORIZONTAL SCROLL-----
3320 RESTORE 3370:FOR I=1656 TO 1709:R
EAD BYTE
3340 IF BYTE=-99 THEN POP :GOTO 3500
3360 POKE I,BYTE:NEXT I
3370 DATA 173,252,6,240,46,24,109,253,
6,141,253,6,141,4,212,201,8,208,32
3372 DATA 169,0,141,253,6,141,4,212,20
6,46,6,173,46,6,201,0,208,2,169,40
3374 DATA 162,0,157,46,6,232,232,232,2
24,6,208,246,76,98,228
3500 REM VBI ENABLE-----
3520 RESTORE 3590:ADVBIE=ADR(MLVBIE$)
3540 FOR I=0 TO 15:READ BYTE
3580 POKE ADVBIE+I,BYTE:NEXT I
3590 DATA 104,169,0,141,252,6,160,120,
162,6,169,7,32,92,228,96
3600 D=USR(ADVBIE)
3700 REM PLAYER MOVE ROUTINE-----
3720 RESTORE 3790:ADMV=ADR(MLMV$)
3740 FOR I=0 TO 155:READ BYTE
3780 POKE ADMV+I,BYTE:NEXT I
3785 POKE ADMV+89,PM-5:POKE ADMV+122
,PM-6
3790 DATA 104,173,0,211,72,41,1,208,11
,165,204,133,205,165,218,133,206,24,14
4,53
3791 DATA 104,72,41,4,208,17,165,204,2
4,105,80,133,205,165,218,24,105,20,133
,206
3792 DATA 24,144,30,104,72,41,2,208,17
,165,204,24,105,160,133,205,165,218,24
,105
3793 DATA 40,133,206,24,144,7,104,165,
219,72,24,144,188,104,133,219,160,10,1
69,0
3794 DATA 145,208,136,208,249,164,205,
185,0,139,48,9,168,230,208,136,208,251
,24
3795 DATA 144,8,41,127,168,198,208,136
,208,251,160,10,177,206,145,208,136,20
8
3796 DATA 249,164,205,185,0,138,48,13,
168,230,220,230,220,230,204,136,208,24
7,24,144
3797 DATA 12,41,127,168,198,220,198,22
0,198,204,136,208,247,165,220,141,0,20
8,96
3800 REM WIPOUT CHECK-----
3810 RESTORE 3880:ADMOUT=ADR(MLMOUT$)
3820 FOR I=0 TO 43:READ BYTE
3860 POKE ADMOUT+I,BYTE:NEXT I
3880 DATA 104,165,208,201,27,48,31,201
,05,16,27,165,220,56,233,113,133,221,1
65,208
3881 DATA 74,197,221,48,13,173,12,208,
41,14,208,6,169,1,141,30,208,96,169,2,
141,251,6,96
3900 REM OCTOPUS MOVE ROUTINE-----
3910 RESTORE 3980:ADOCMV=ADR(MLOCMV$)
3920 FOR I=0 TO 35:READ BYTE
3960 POKE ADOCMV+I,BYTE:NEXT I
3980 DATA 104,173,250,6,24,109,252,6,1
09,252,6,109,252,6,141,250,6,141,1,208
,201,144,48,11,169,0
3981 DATA 141,250,6,141,1,208,141,251,
6,96
3990 REM FISH MOVE ROUTINE-----
4000 RESTORE 4040:ADFIMV=ADR(MLFIMV$)
4010 FOR I=0 TO 35:READ BYTE
4030 POKE ADFIMV+I,BYTE:NEXT I
4040 DATA 104,173,250,6,24,109,252,6,1
09,252,6,109,252,6,141,250,6,141,2,208
,201,160,48,11,169,0
4041 DATA 141,250,6,141,2,208,141,251,
6,96
4050 RETURN
4055 REM COLOUR INITIATION-----
4060 SETCOLOR 0,1,12:SETCOLOR 1,7,8:5E
TCOLOR 2,9,12:SETCOLOR 4,0,14
4080 POKE 1790,116:POKE 1791,120
4100 I=LADMV+17:J=HADMV:IF I>255 THEN
I=I-255:J=J+1
4120 POKE 512,I:POKE 513,J
4140 D=USR(ADMV)
4500 REM BASE SCREEN-----
4520 DMH=RAMTOP-32:DML=0:DM=256*DMH
4540 THEVAL=255:MEMST=DM:NUM=216
4560 D=USR(VPOKAD,THEVAL,MEMST,NUM)
4580 THEVAL=170:MEMST=DM+216:NUM=792
4600 D=USR(VPOKAD,THEVAL,MEMST,NUM)
4620 THEVAL=85:MEMST=DM+1008:NUM=144
4640 D=USR(VPOKAD,THEVAL,MEMST,NUM)
4700 REM D-L MODIFICATION-----
4740 DL=1536:DLL=0:DLH=6
4760 FOR I=1536 TO 1538:POKE I,112:NEX
T I
4780 POKE 1539,74:POKE 1540,DML:POKE 1
541,DMH
4800 FOR I=1542 TO 1580:POKE I,10:NEXT
I
4820 POKE 1581,87:POKE 1582,40:POKE 15
83,PM-3:POKE 1584,87:POKE 1585,40:POKE
1586,PM-2
4840 POKE 1587,70:POKE 1588,0:POKE 158
9,PM-1
4860 POKE 1590,65:POKE 1591,DLL:POKE 1
592,DLH
4880 POKE 560,DLL:POKE 561,DLH:POKE 55
9,47
4900 REM GR.2 & GR.1 DATA-----
4910 REM SPECTATORS
4920 STI=256*(PM-3):RESTORE 5040
4940 THEVAL=0:MEMST=STI:NUM=512
4941 D=USR(VPOKAD,THEVAL,MEMST,NUM)
4960 FOR I=STI TO STI+15 STEP 5
4980 RDM=5*RND(0)
5000 READ BYTE:POKE I+RDM,BYTE:POKE I+
RDM+40,BYTE
5020 READ BYTE:POKE I+RDM+256,BYTE:POK
E I+RDM+296,BYTE:NEXT I
5040 DATA 0,6,0,10,0,11,5,7
5080 FOR I=STI+20 TO STI+35 STEP 5
5100 RDM=5*RND(0)
5120 READ BYTE:POKE I+RDM,BYTE
5130 IF BYTE=2 THEN POKE I+RDM+1,1:POK
E I+RDM+257,3:GOTO 5150
5140 READ BYTE:POKE I+RDM+256,BYTE
5150 NEXT I
5160 DATA 8,9,0,6,2,4,7
5165 REM TEXT
5170 TXTAD=256*(PM-1):TXT$="" SCORE= 0
"
5180 FOR I=1 TO LEN(TXT$)
5185 INTCHR=ASC(TXT$(I,I))-32
5190 POKE TXTAD+I-1,INTCHR:NEXT I

```

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5200 REM WAVE BUILD-----
5210 IF STRIG(0)=1 THEN GOTO 5210
5220 RESTORE 5400:DELAY=35
5240 FOR I=1 TO 15
5260 READ LINEST,LINEFN:LINEST=DL+4+LI
NEST:LINEFN=DL+4+LINEFN
5280 POKE LINEST,138:POKE LINEFN,138
5281 D=USR(ADVB)
5290 IF I=15 THEN POP :GOTO 5500
5300 DELAY=DELAY-2*I:GOSUB DEL
5320 POKE LINEST,10:POKE LINEFN,10
5340 NEXT I
5400 DATA 10,12,11,13,12,14,13,16,14,1
7,15,19,16,21,17,23,18,25,18,27,17,29,
16,32,15,35,13,38,11,40
5500 REM WAVE BREAK-----
5520 DRCOLR=0:XST=90:YST=11:POKE 88,DH
L:POKE 89,DH:POKE SCROLS,1
5540 FOR I=1 TO 34:READ YFN
5560 D=USR(ADRAW,DRCOLR,YFN,YST,XST)
F XST=XST-1:NEXT I
5570 DATA 39,39,39,39,39,39,39,38,38,3
8,38,38,37,37,37,37
5591 DATA 36,36,35,34,33,32,31,30,28,2
6,24,22,19,17,15,13,12,11
5999 RETURN
6000 REM WIPEOUT-----
6020 POKE 218,60:D=USR(ADMOV):POKE SCR
OLS,0
6040 DELAY=25:GOSUB DEL
6060 POKE 53248,20
6080 DRCOLR=0:YST=11:YFN=39
6100 FOR XST=83 TO 0 STEP -1:D=USR(ADD
RAW,DRCOLR,YFN,YST,XST):NEXT XST
6200 REM FINISH-----
6220 POKE SCROLS,0:POKE 708,0:POKE 532
49,20:POKE 53250,20
6230 THEVAL=0:MEMST=PM0+512:NUM=128
6231 D=USR(UPOKAD,THEVAL,MEMST,NUM)
6 TXTH$(10)=SCR$:TXTH$(10+LEN(SCR$))=
" TXTH$=" HISCORE="
6260 TXTH$(12)=STR$(HSCORE)
6280 IF SCORE>HSCORE THEN HSCORE=SCORE
6290 DELAY=50
6300 FOR I=1 TO LEN(TXTH$)
6320 INTCHR=ASC(TXTH$(I,I))-32
6340 POKE TXTH$+I-1,INTCHR:NEXT I
6360 GOSUB DEL
6380 FOR I=1 TO LEN(TXTH$)
6400 INTCHR=ASC(TXTH$(I,I))-32
6420 POKE TXTH$+I-1,INTCHR:NEXT I
6440 GOSUB DEL:IF STRIG(0)=0 THEN GOSU
B 4055:GOTO 2000
6460 GOTO 6300
8000 REM P-M GRAPHICS-----
8020 RANTOP=PEEK(106):PM=RANTOP-16:PM0
=256*PM
8040 POKE 54279,PM:POKE 559,46:POKE 53
277,3:POKE 623,17:POKE 53256,1:POKE 70
4,40:POKE 705,204:POKE 706,76
8060 THEVAL=0:MEMST=PM0-8*256:NUM=12*2
56
8080 D=USR(UPOKAD,THEVAL,MEMST,NUM)
8120 REM SURFER
8140 RESTORE 8181:OFFSET=0:FOR J=1 TO
6
8160 FOR I=1 TO 11:READ BYTE:POKE PM0+
OFFSET+I,BYTE:NEXT I
8180 OFFSET=OFFSET+20:NEXT J
8181 DATA 0,0,4,14,5,44,52,28,12,4,0
8182 DATA 0,0,8,28,8,20,18,254,4,0,0
8183 DATA 0,8,28,8,14,22,24,16,32,64,0
8184 DATA 0,0,146,10,79,18,33,0,16,0,0
8185 DATA 0,0,4,72,113,210,76,8,16,32,
0
8186 DATA 0,2,3,66,74,50,34,162,120,32
,0
8200 REM OCTOPUS
8205 RESTORE 8215:FOR I=0 TO 9:READ BY
TE
8210 POKE PM0+680+I,BYTE:NEXT I
8215 DATA 60,126,126,126,60,90,153,165
,165,36
8219 REM FISH
8220 RESTORE 8230:FOR I=1 TO 5:READ BY
TE
8225 POKE PM0+855+I,BYTE:NEXT I
8230 DATA 132,222,254,255,158
8245 ADPL=PM0+580:ADPLH=INT(ADPL/256):
ADPLL=ADPL-256*ADPLH
8250 REM MOVE CHARACTER SET-----
8260 FOR I=1 TO 32:READ BYTE
8270 MLCMV$(I)=CHR$(BYTE):NEXT I
8280 DATA 104,104,133,204,104,133,203,
104,133,206,104,133,205,162,2
8281 DATA 160,0,177,203,145,205,136,20
8,249,230,204,230,206,202,208,240,96
8290 D=USR(ADR(MLCMV$),57344,256*(PM-
8))
8300 REM CHARACTER SET-----
8320 CHARPG=PM-8:CHARAD=256*CHARPG:POK
E 756,CHARPG:RESTORE 8380
8340 FOR I=0 TO 11:FOR J=0 TO 7
8360 READ BYTE:POKE CHARAD+8*I+J,BYTE:
NEXT J:NEXT I
8380 DATA 255,255,255,255,255,255,255,
255
8381 DATA 255,127,31,7,3,1,127,127
8382 DATA 255,255,252,240,224,192,255,
255
8383 DATA 127,127,127,127,127,127,127,
127
8384 DATA 255,255,255,243,243,255,225,
210
8385 DATA 255,255,191,179,179,223,225,
242
8386 DATA 231,231,255,207,143,155,149,
142
8387 DATA 242,242,242,237,237,237,237,
237
8388 DATA 191,129,129,129,191,191,191,
191
8389 DATA 191,191,191,191,191,191,191,
191
8390 DATA 255,253,124,124,131,131,187,
123
8391 DATA 255,255,255,255,231,195,195,
231
8400 REM MOVE TABLES-----
8419 REM HORIZONTAL
8420 MEMST=(PM-6)*256:RESTORE 8490
8440 FOR I=1 TO 22:READ THEVAL,NUM
8460 D=USR(UPOKAD,THEVAL,MEMST,NUM)
8480 MEMST=MEMST+NUM:NEXT I
8490 DATA 2,10,1,20,2,10,3,10,4,10,4,1
0,5,10
8491 DATA 2,10,1,10,0,20,129,5,130,5,1
31,10,132,10,133,10
8492 DATA 2,10,1,20,0,10,129,15,130,5,
131,10,132,10
8519 REM VERTICAL
8520 MEMST=(PM-5)*256:RESTORE 8590
8540 FOR I=1 TO 17:READ THEVAL,NUM
8560 D=USR(UPOKAD,THEVAL,MEMST,NUM)
8580 MEMST=MEMST+NUM:NEXT I
8590 DATA 2,10,1,10,0,10,129,10,130,10
,131,10,132,10,133,10
8591 DATA 4,10,3,20,2,20,1,20,0,10,4,2
0,3,40,4,10,5,10
8599 RETURN
8600 REM TITLE SCREEN-----
8620 GRAPHICS 2:POKE 752,1
8640 POSITION 4,4:PRINT #6;"**MAX HEAD
**"
8660 PRINT " *PRESS TRIGGER TO STA
RT"
8662 PRINT " *PRESS TRIGGER FOR WA
VE"
8664 PRINT " *PRESS TRIGGER FOR NE
W GAME"
8680 IF STRIG(0)=1 THEN GOTO 8680
8700 REM STANDBY SCREEN-----
8720 GRAPHICS 5:POKE 752,1:RESTORE 875
0
8740 FOR I=1 TO 21:READ HEAD$:POSITION
31,8+I:PRINT #6;HEAD$:NEXT I
8750 DATA DDDDDDDDDDDDDDDDDDDDDDD
8751 DATA DDDDDDDDDDDDDDDDDDDDDDD
8752 DATA DDDDDDDDDDDDDDDDDDDDDDD
8753 DATA DDDDDDDDDDDDDDDDDDDDDDD
8754 DATA DDDDDDDDDDDDDDDDDDDDDDD
8755 DATA DDDDDDDDDDDDDDDDDDDDDDD
8756 DATA DDDDDDDDDDDDDDDDDDDDDDD
8757 DATA DDDDDDDDDDDDDDDDDDDDDDD
8758 DATA DDDDDDDDDDDDDDDDDDDDDDD
8759 DATA DDDDDDDDDDDDDDDDDDDDDDD
8760 DATA DDDDDDDDDDDDDDDDDDDDDDD
8761 DATA DDDDDDDDDDDDDDDDDDDDDDD
8762 DATA DDDDDDDDDDDDDDDDDDDDDDD
8763 DATA DDDDDDDDDDDDDDDDDDDDDDD

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8764 DATA 00000000000000000000
8765 DATA 00000000000000000000
8766 DATA 00000000000000000000
8767 DATA 00000000000000000000
8768 DATA 00000000000000000000
8769 DATA 00000000000000000000
8770 DATA 00000000000000000000
8780 PRINT :PRINT "   HANG TEN WHILE I
      MAX MY BOARD"
8999 RETURN
9000 REM DELAY SUBROUTINE-----
9020 FOR T=1 TO DELAY:NEXT T:RETURN
9100 REM POKE VALUE ROUTINE-----
9101 RESTORE 9150:VPOKAD=ADR(MLPOKE$)
9110 FOR I=VPOKAD TO VPOKAD+43:READ BY
TE
9130 POKE I,BYTE:NEXT I
9150 DATA 104,162,5,104,149,204,202,16
,250,165,112,74,74,133,117,32,184,6
,250,165,205,240,17,165,208,160,255,14
5,206,136
9151 DATA 208,251,145,206,230,207,198,
205,208,241,198,204,165,208,164,204,14
5,206,136,208
9152 DATA 251,145,206,96
9200 REM DRAW ROUTINE-----
9220 ADDR=ADR(MLDRAW$):RESTORE 9290
9240 FOR I=0 TO 105:READ BYTE
9260 POKE ADDR+I,BYTE:NEXT I
9290 DATA 104,162,3,104,104,149,112,20
2,16,249,56,165,114,229,113,133,116,16
5,88,133
9291 DATA 118,165,89,133,119,164,113,2
40,10,169,24,133,117,32,184,6,136,208,
250,165,112,74,74,133,117,32,184,6
9292 DATA 169,252,133,120,165,112,41,3
,170,224,3,240,13,6,115,6,115,56,38,12
0,38,120,232,24,144,239
9293 DATA 230,116,166,116,160,0,165,12
0,49,118,145,118,165,115,17,118,145,11
8,202,240,10,169,24,133
9294 DATA 117,32,184,6,24,144,229,96
9300 RESTORE 9330:FOR I=0 TO 11
9320 READ BYTE:POKE 1720+I,BYTE:NEXT I
9330 DATA 24,165,118,101,117,133,118,1
44,2,230,119,96
9390 RETURN

```

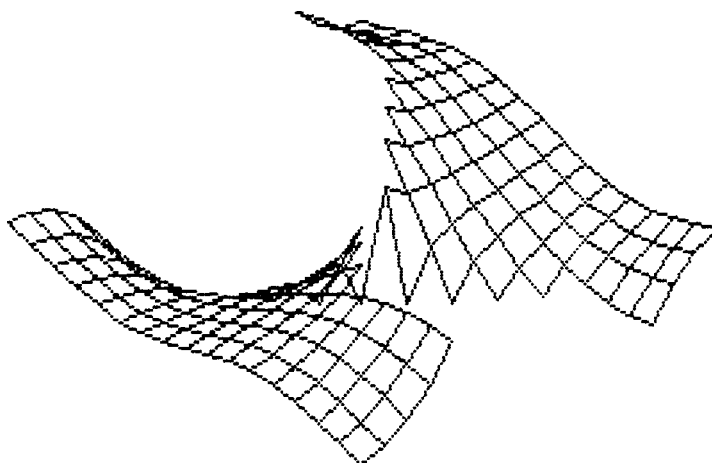


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